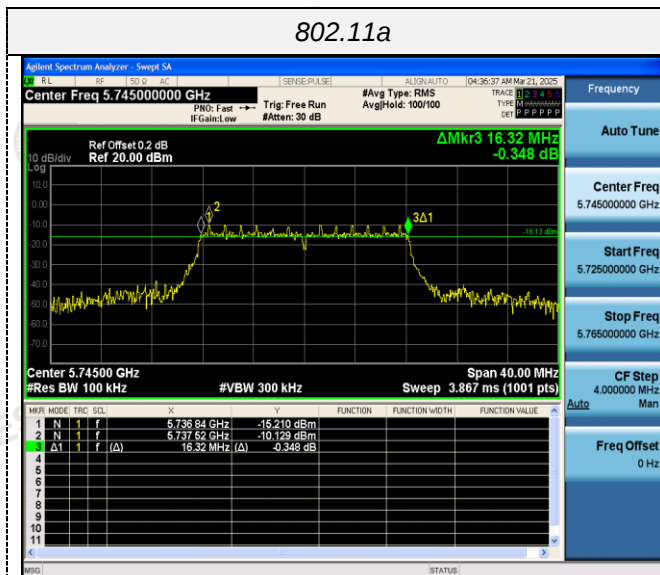
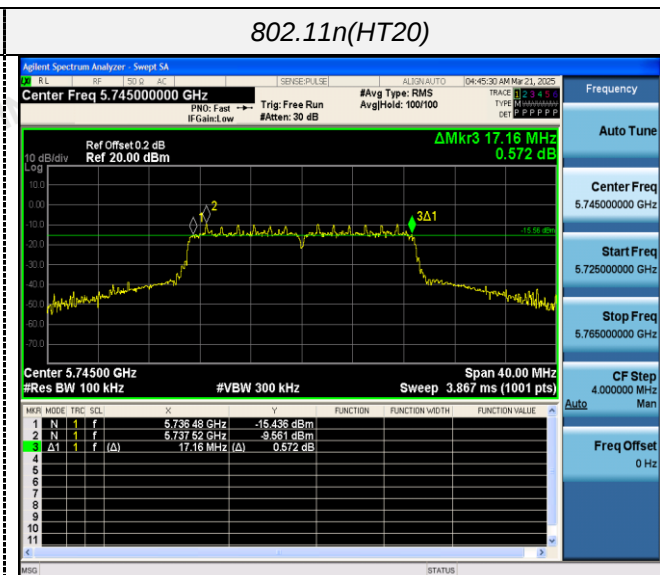


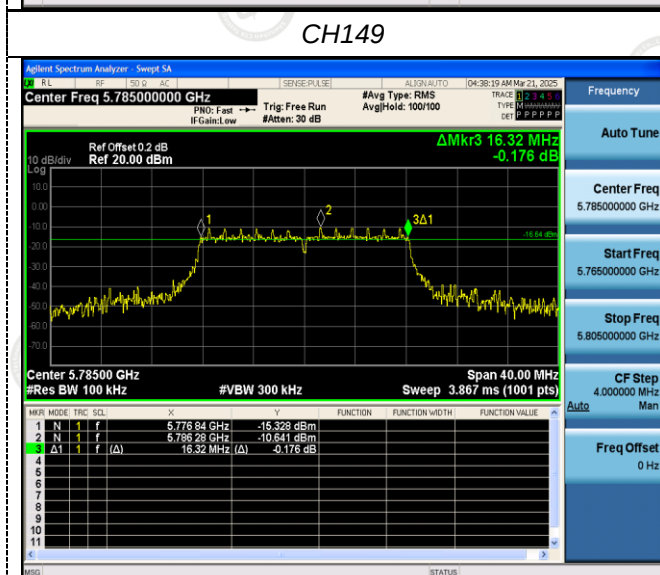
802.11a



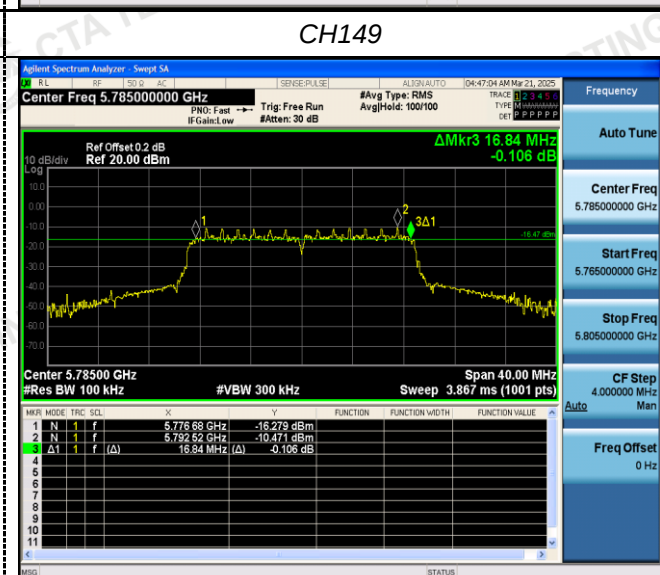
802.11n(HT20)



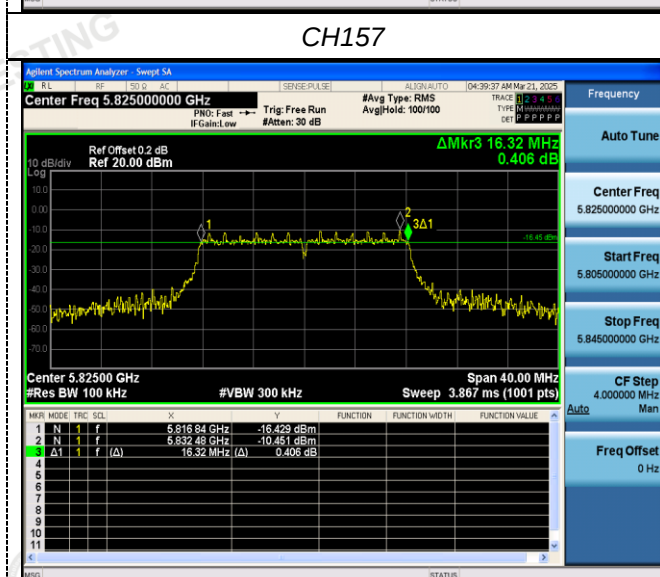
CH149



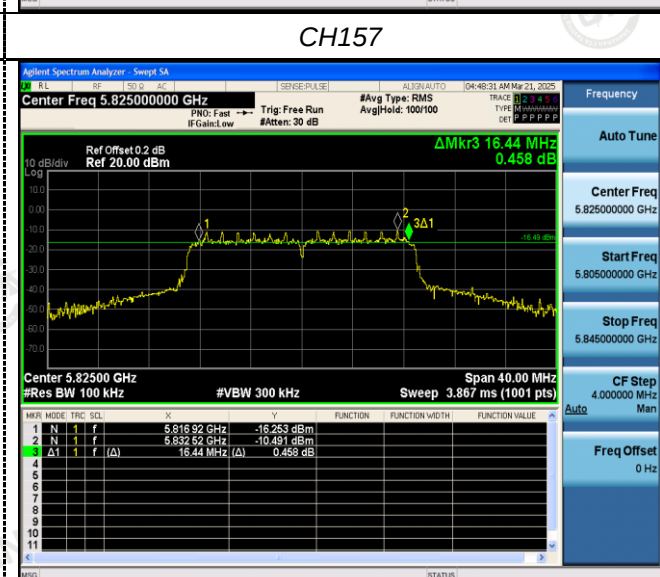
CH149



CH157



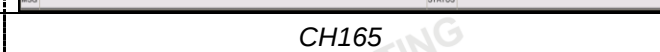
CH157



CH165

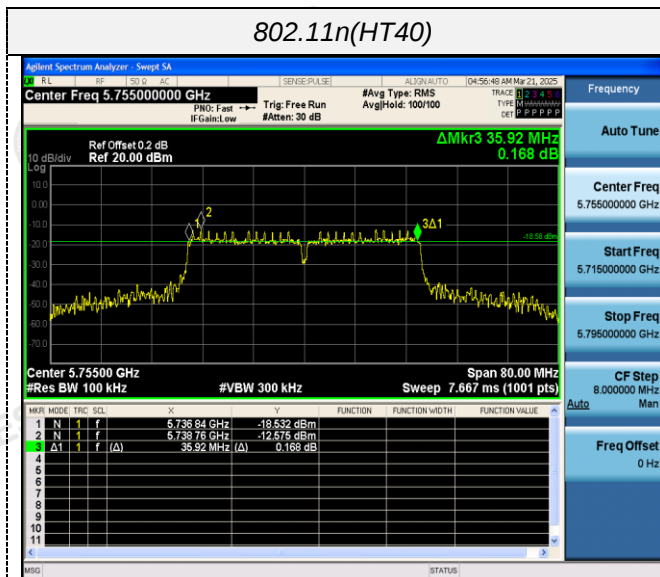


CH165



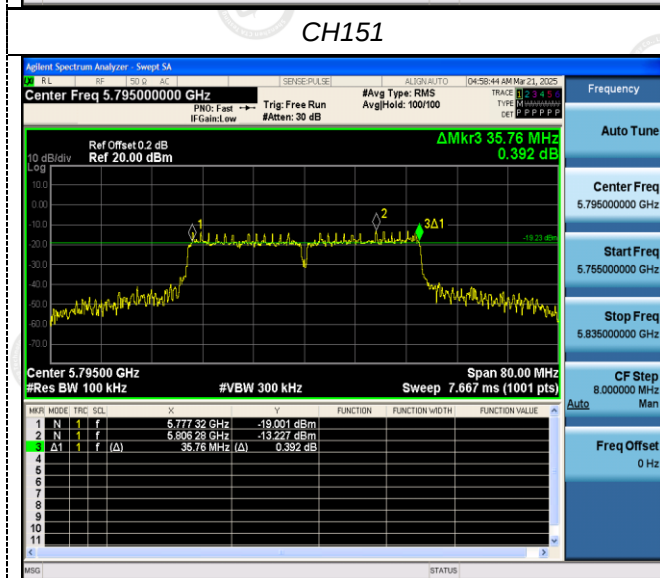
802.11n(HT40)

/



CH151

/



CH159

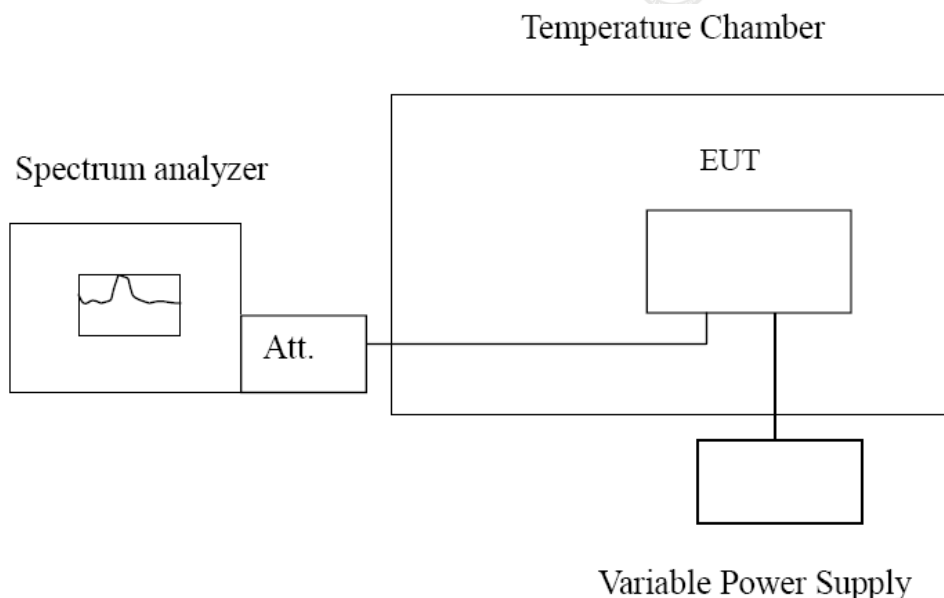
/

4.7 Frequency Stability

LIMIT

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual.

TEST CONFIGURATION



TEST PROCEDURE

Frequency Stability under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Frequency Stability under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

TEST RESULTS

Record worst case as below:

Reference Frequency: 802.11ac channel=36 frequency=5180MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 120	-30	110.78	0.021386	Within the band of operation	Pass
	-20	174.53	0.033693		
	-10	145.23	0.028037		
	0	146.64	0.028309		
	10	145.88	0.028162		
	20	99.44	0.019197		
	30	167.38	0.032313		
	40	129.38	0.024977		
	50	128.64	0.024834		
AC 132	25	195.50	0.037741	Within the band of operation	Pass
AC 108	25	118.87	0.022948		

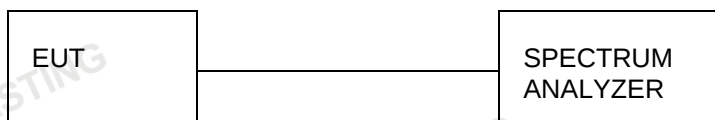
Reference Frequency: 802.11ac channel=149 frequency=5745MHz					
Voltage (V)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
AC 120	-30	135.73	0.023626	Within the band of operation	Pass
	-20	129.55	0.022550		
	-10	167.34	0.029128		
	0	169.82	0.029560		
	10	136.37	0.023737		
	20	144.84	0.025211		
	30	116.83	0.020336		
	40	168.56	0.029340		
	50	160.83	0.027995		
AC 132	25	150.97	0.026279	Within the band of operation	Pass
AC 108	25	129.90	0.022611		

4.8 On Time and Duty Cycle

Standard Applicable

None; for reporting purpose only.

TEST CONFIGURATION



Test Procedures

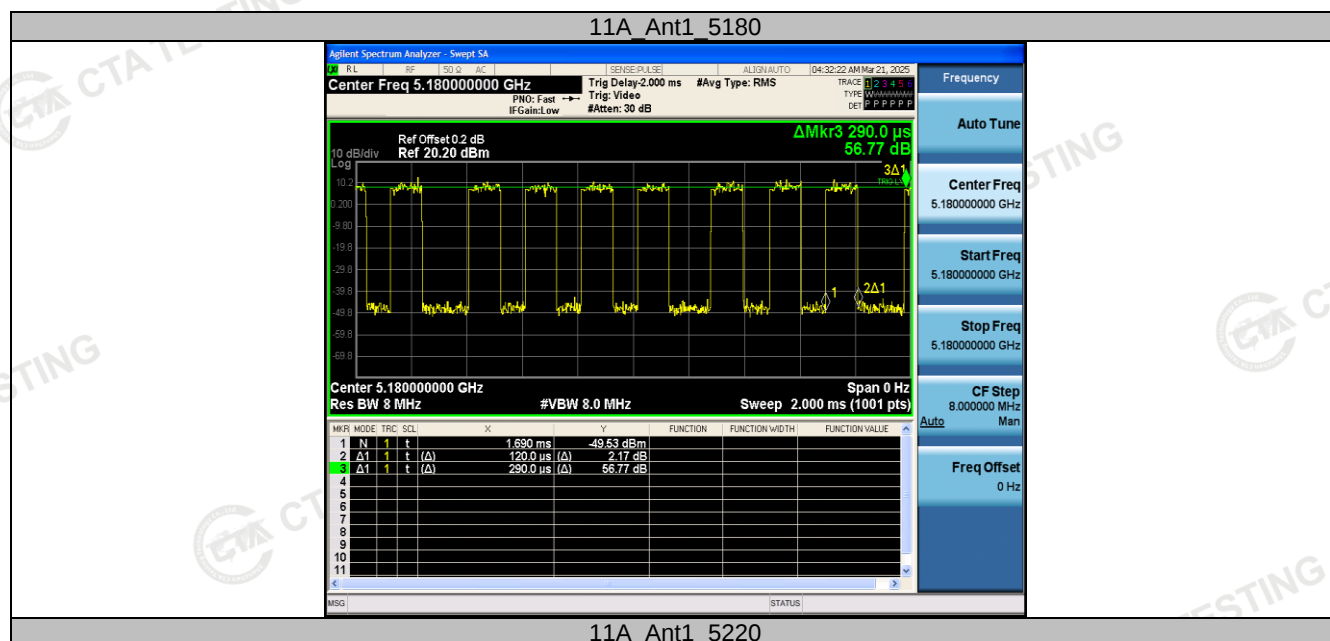
- 1). Set the Centre frequency of the spectrum analyzer to the transmitting frequency;
- 2). Set the span=0MHz, RBW=1MHz, VBW=1MHz, Sweep time=5ms;
- 3). Detector = peak;
- 4). Trace mode = Single hold.

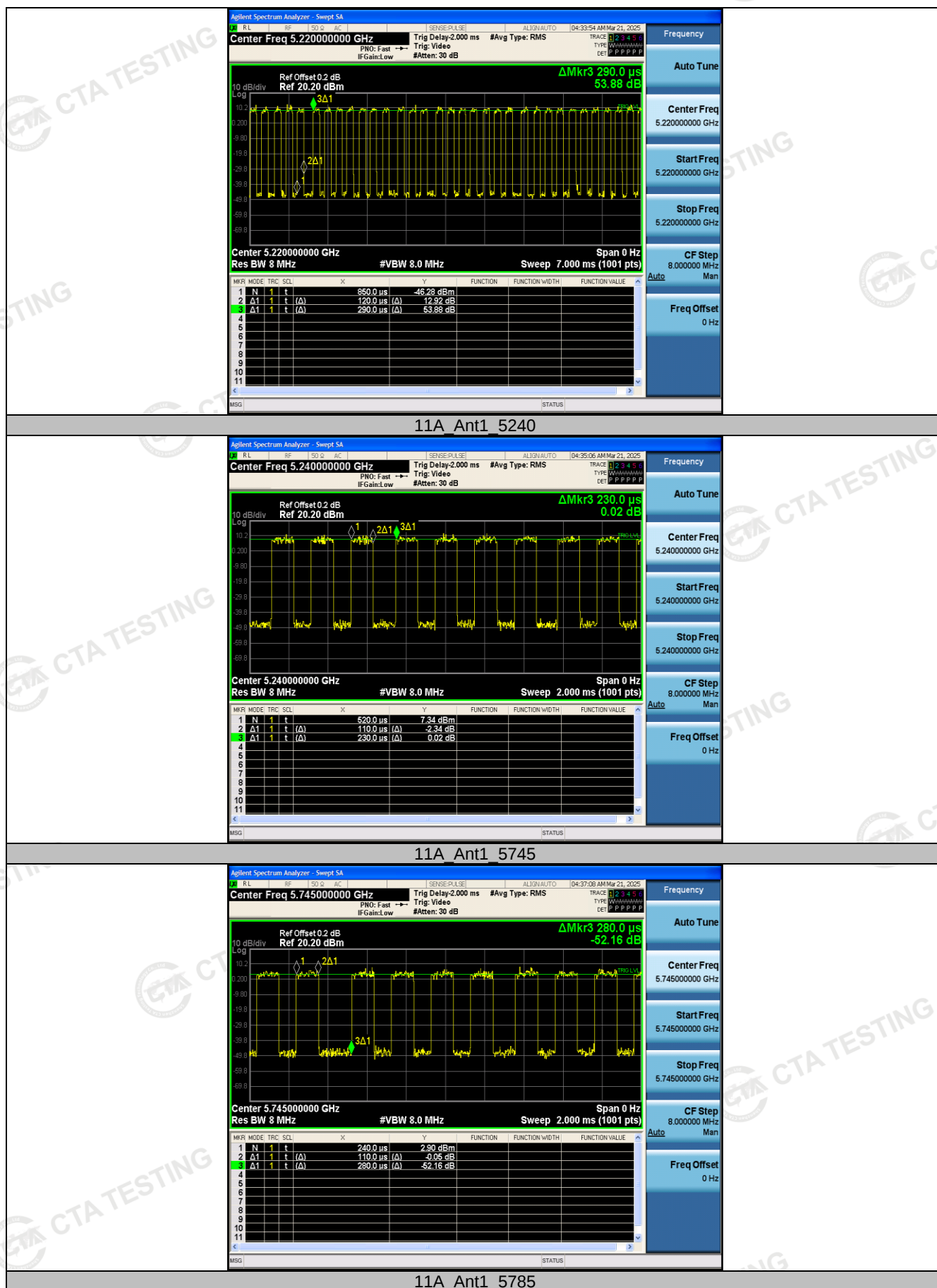
Shenzhen CTA Testing Technology Co., Ltd.

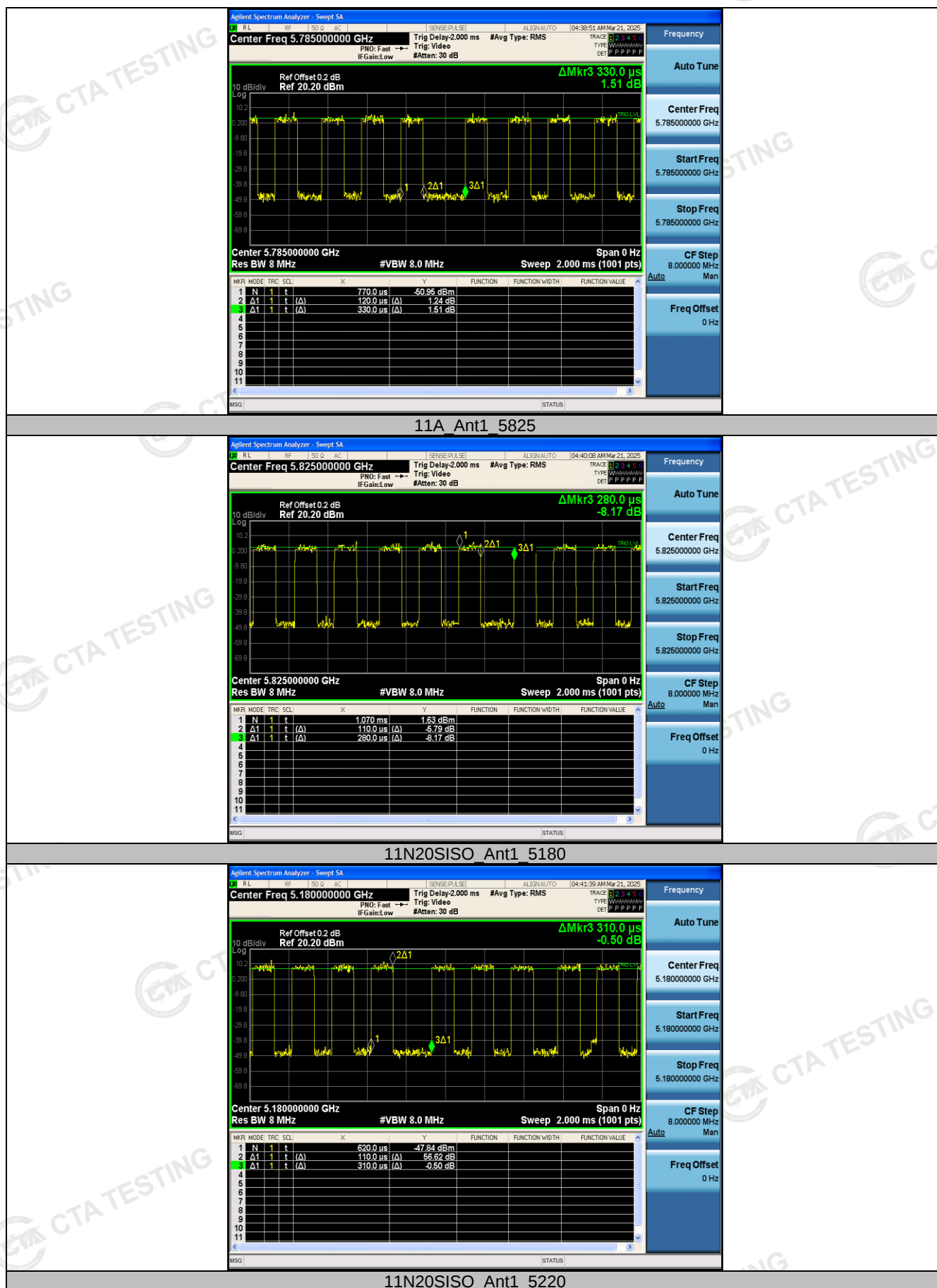
Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China
Tel:+86-755 2322 5875 E-mail:cta@cta-test.cn Web:http://www.cta-test.cn

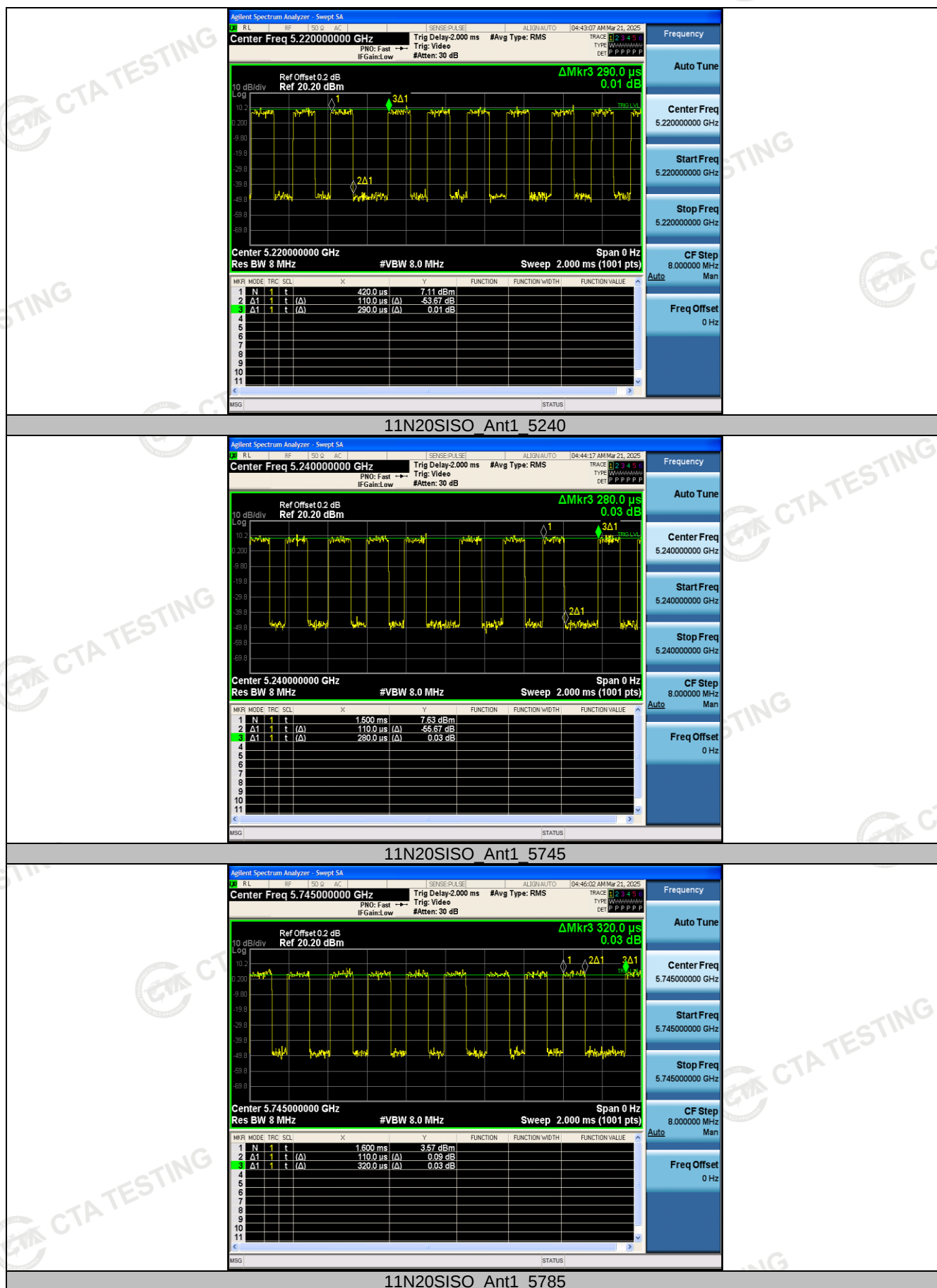
TEST RESULTS

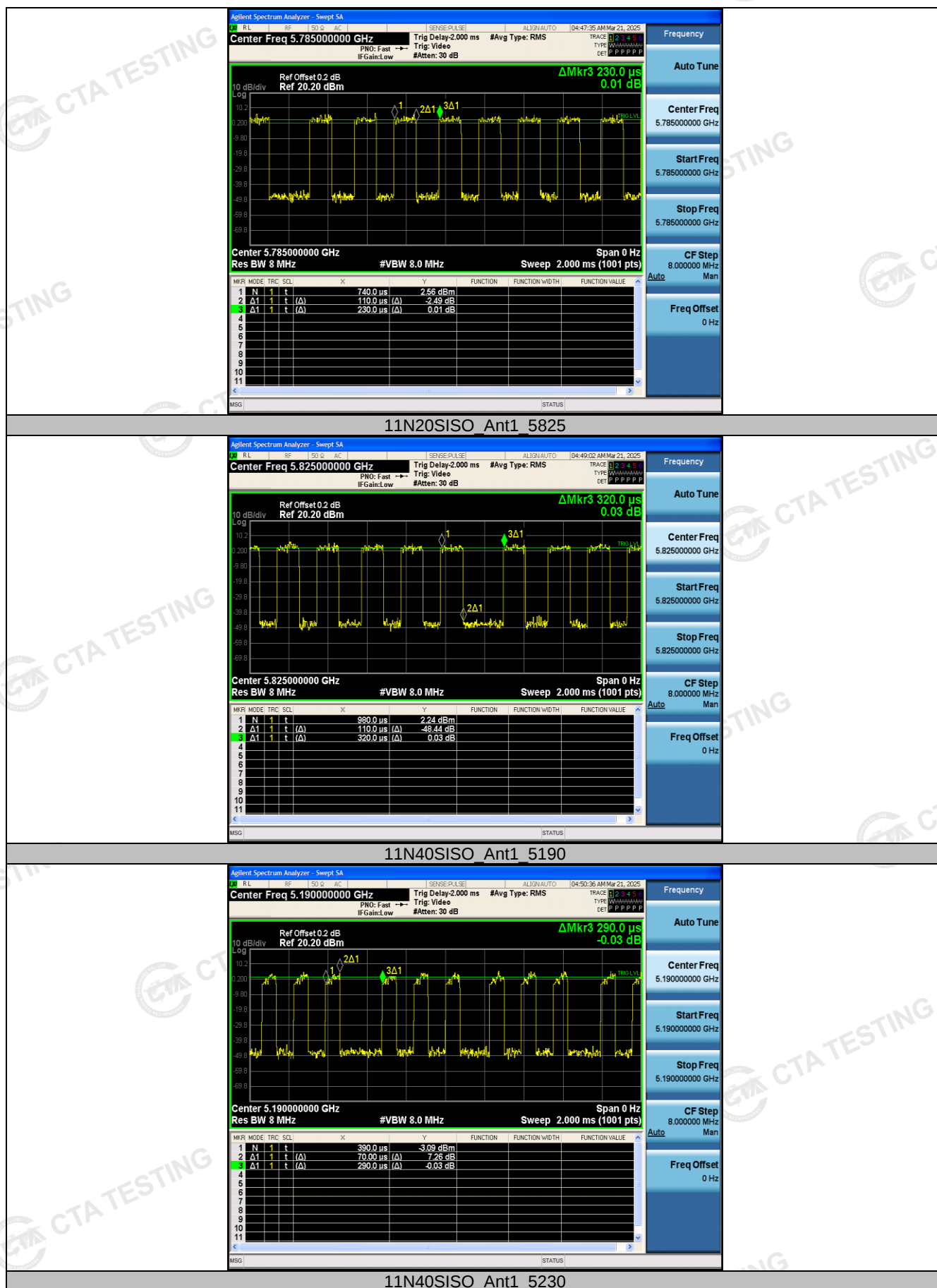
TestMode	Antenna	Freq(MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Duty factor (dB)	Limit	Verdict
11A	Ant1	5180	0.12	0.29	41.38	3.83	---	---
		5220	0.12	0.29	41.38	3.83	---	---
		5240	0.11	0.23	47.83	3.20	---	---
		5745	0.11	0.28	39.29	4.06	---	---
		5785	0.12	0.33	36.36	4.39	---	---
		5825	0.11	0.28	39.29	4.06	---	---
11N20SISO	Ant1	5180	0.11	0.31	35.48	4.50	---	---
		5220	0.11	0.29	37.93	4.21	---	---
		5240	0.11	0.28	39.29	4.06	---	---
		5745	0.11	0.32	34.38	4.64	---	---
		5785	0.11	0.23	47.83	3.20	---	---
		5825	0.11	0.32	34.38	4.64	---	---
11N40SISO	Ant1	5190	0.07	0.29	24.14	6.17	---	---
		5230	0.07	0.31	22.58	6.46	---	---
		5755	0.07	0.23	30.43	5.17	---	---
		5795	0.07	0.27	25.93	5.86	---	---

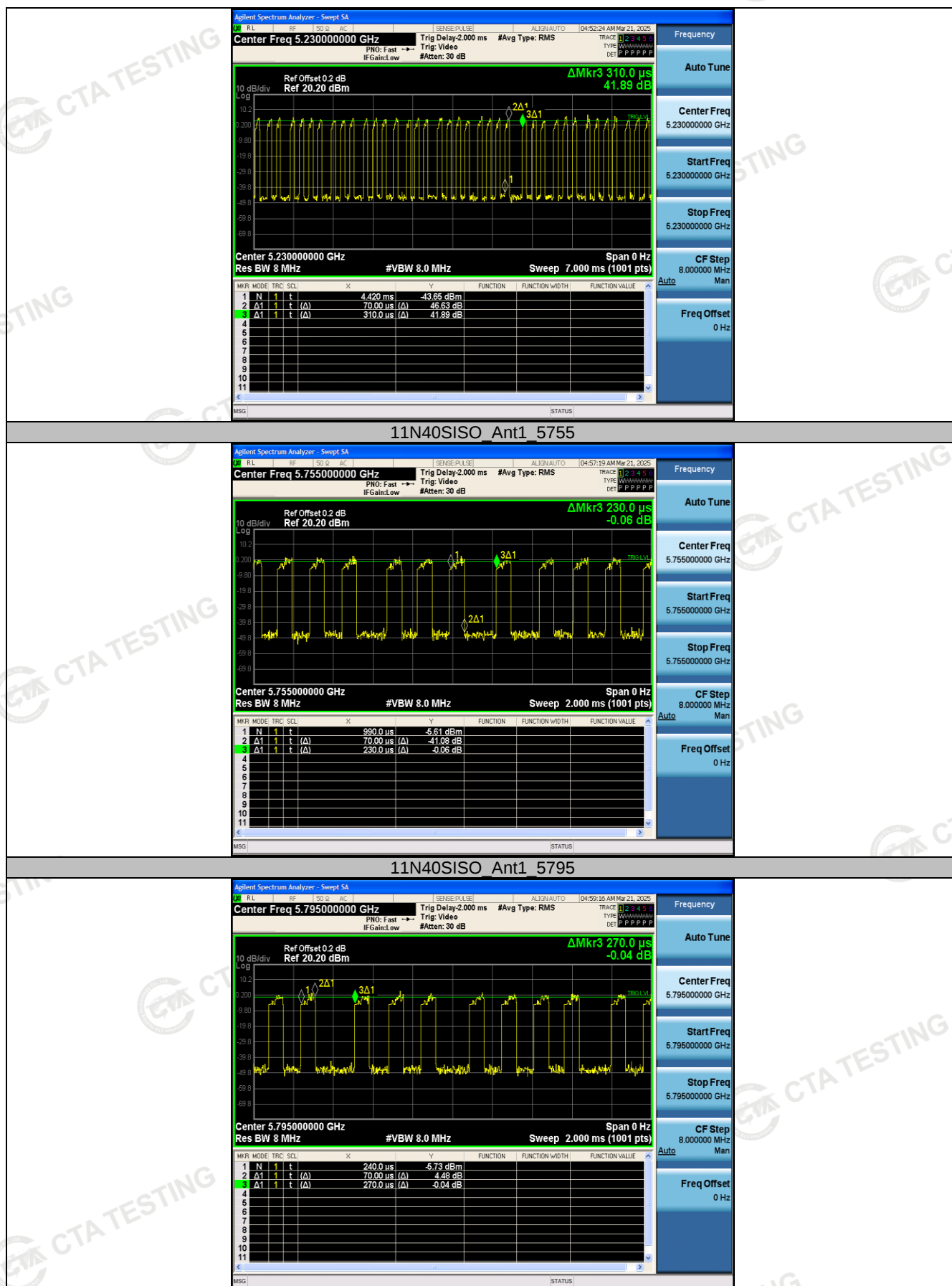












1 Test Setup Photos of the EUT



2 Photos of the EUT

Reference to the test report No. CTA25031300301.

***** End of Report *****